



# National Nutrient Database for Standard Reference

## Release 28 slightly revised May, 2016

### Statistics Report 09503, Apples, raw, gala, with skin

Report Date: July 01, 2017 12:07 EDT

Nutrient values and weights are for edible portion.

Nutrient	Unit	Value Per 100 g	Data Points	Std. Error	Min	Max	df	LB	UB	# Studies	Source	NDB Ref	Last Modified
<strong>Proximates</strong>													
Water <sup>1 2</sup>	g	85.76	4	0.059	85.06	86.36	1.0	85.104	86.411	2	Analytical or derived from analytical	--	08/2012
Energy	kcal	57	--	--	--	--	--	--	--	--	Calculated or imputed	--	08/2012
Energy	kJ	237	--	--	--	--	--	--	--	--	Calculated or imputed	--	08/2012
Protein <sup>1 2</sup>	g	0.25	4	0.025	0.22	0.32	1.0	-0.07	0.561	2	Analytical or derived from analytical	--	08/2012
Total lipid (fat) <sup>1 2</sup>	g	0.12	4	0.029	0.07	0.17	2.0	-0.015	0.247	2	Analytical or derived from analytical	--	08/2012
Ash <sup>1 2</sup>	g	0.20	4	0.003	0.16	0.23	2.0	0.18	0.215	2	Analytical or derived from analytical	--	08/2012
Carbohydrate, by difference	g	13.68	--	--	--	--	--	--	--	--	Calculated or imputed	--	08/2012
Fiber, total dietary <sup>1 2</sup>	g	2.3	4	0.110	1.6	2.8	1.0	1.192	3.428	2	Analytical or derived from analytical	--	08/2012
Sugars, total <sup>1 2</sup>	g	10.37	4	0.050	9.39	11.26	1.0	9.759	10.978	2	Analytical or derived from analytical	--	08/2012

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Sucrose <a href="#">1</a> <a href="#">2</a>	g	2.78	4	0.048	2.1	3.53	1.0	2.277	3.283	2	Analytical or derived from analytical	--	08/2012
Glucose (dextrose) <a href="#">1</a> <a href="#">2</a>	g	1.66	4	0.024	1.45	1.86	2.0	1.549	1.765	2	Analytical or derived from analytical	--	08/2012
Fructose <a href="#">1</a> <a href="#">2</a>	g	5.93	4	0.079	5.39	6.37	1.0	5.242	6.621	2	Analytical or derived from analytical	--	08/2012
Lactose <a href="#">1</a> <a href="#">2</a>	g	0.00	4	0.000	0	0	--	--	--	2	Analytical or derived from analytical	--	08/2012
Maltose <a href="#">1</a> <a href="#">2</a>	g	0.00	4	0.000	0	0	--	--	--	2	Analytical or derived from analytical	--	08/2012
Galactose <a href="#">1</a> <a href="#">2</a>	g	0.00	4	0.000	0	0	--	--	--	2	Analytical or derived from analytical	--	08/2012
Starch <a href="#">2</a>	g	0.05	2	--	0.05	0.05	--	--	--	1	Analytical or derived from analytical	--	08/2012
<b>Minerals</b>													
Calcium, Ca <a href="#">1</a> <a href="#">2</a>	mg	7	4	0.427	6	8	1.0	2.248	11.597	2	Analytical or derived from analytical	--	08/2012
Iron, Fe <a href="#">2</a>	mg	0.12	2	--	0.12	0.12	1.0	--	--	1	Analytical or derived from analytical	--	08/2012
Magnesium, Mg <a href="#">1</a> <a href="#">2</a>	mg	5	4	0.030	5	5	2.0	5.091	5.354	2	Analytical or derived from analytical	--	08/2012

Nutrient	Unit	Value Per100 g	Data Points	Std. Error	Min	Max	df	LB	UB	# Studies	Source	NDB Ref	Last Modified
Phosphorus, P <a href="#">1</a> <a href="#">2</a>	mg	11	4	0.190	10	11	1.0	9.217	11.883	2	Analytical or derived from analytical	--	08/2012
Potassium, K <a href="#">1</a> <a href="#">2</a>	mg	108	4	3.400	97	117	2.0	91.704	123.796	2	Analytical or derived from analytical	--	08/2012
Sodium, Na	mg	1	--	--	--	--	--	--	--	--	Calculated or imputed	--	08/2012
Zinc, Zn <a href="#">1</a> <a href="#">2</a>	mg	0.05	4	0.011	0.04	0.08	1.0	-0.038	0.139	2	Analytical or derived from analytical	--	08/2012
Copper, Cu <a href="#">2</a>	mg	0.021	2	--	0.02	0.02	1.0	--	--	1	Analytical or derived from analytical	--	08/2012
Manganese, Mn <a href="#">1</a> <a href="#">2</a>	mg	0.037	4	0.001	0.03	0.04	1.0	0.021	0.052	2	Analytical or derived from analytical	--	08/2012
Selenium, Se <a href="#">2</a>	µg	0.0	1	--	--	--	--	--	--	--	Analytical or derived from analytical	--	08/2012
<b>Vitamins</b>													
Thiamin <a href="#">1</a> <a href="#">2</a>	mg	0.017	4	0.002	0.01	0.02	1.0	-0.001	0.036	2	Analytical or derived from analytical	--	08/2012
Riboflavin <a href="#">1</a> <a href="#">2</a>	mg	0.029	4	0.004	0.01	0.05	1.0	-0.005	0.064	2	Analytical or derived from analytical	--	08/2012
Niacin <a href="#">2</a>	mg	0.075	2	--	0.07	0.08	1.0	--	--	1	Analytical or derived from analytical	--	08/2012

Nutrient	Unit	Value Per 100 g	Data Points	Std. Error	Min	Max	df	LB	UB	# Studies	Source	NDB Ref	Last Modified
Pantothenic acid <a href="#">1</a> <a href="#">2</a>	mg	0.055	4	0.001	0.03	0.08	1.0	0.038	0.073	2	Analytical or derived from analytical	--	08/2012
Vitamin B-6 <a href="#">1</a> <a href="#">2</a>	mg	0.049	4	0.002	0.05	0.05	2.0	0.04	0.058	2	Analytical or derived from analytical	--	08/2012
Folate, total	µg	3	--	--	--	--	--	--	--	--	Calculated or imputed	--	08/2012
Folate, food	µg	3	--	--	--	--	--	--	--	--	Calculated or imputed	--	08/2012
Choline, total	mg	3.4	--	--	--	--	--	--	--	--	Calculated or imputed	--	08/2012
Vitamin A, RAE <a href="#">1</a>	µg	1	1	--	--	--	--	--	--	--	Analytical or derived from analytical	--	08/2012
Carotene, beta <a href="#">1</a>	µg	11	1	--	--	--	--	--	--	--	Analytical or derived from analytical	--	08/2012
Carotene, alpha <a href="#">1</a>	µg	0	1	--	--	--	--	--	--	--	Analytical or derived from analytical	--	08/2012
Cryptoxanthin, beta <a href="#">1</a>	µg	11	1	--	--	--	--	--	--	--	Analytical or derived from analytical	--	08/2012
Vitamin A, IU <a href="#">1</a>	IU	28	1	--	--	--	--	--	--	--	Analytical or derived from analytical	--	08/2012
Lycopene <a href="#">1</a>	µg	0	1	--	--	--	--	--	--	--	Analytical or derived from analytical	--	08/2012

Nutrient	Unit	Value Per100 g	Data Points	Std. Error	Min	Max	df	LB	UB	# Studies	Source	NDB Ref	Last Modified
Lutein + zeaxanthin <sup>1</sup>	µg	11	1	--	--	--	--	--	--	--	Analytical or derived from analytical	--	08/2012
Vitamin E (alpha-tocopherol)	mg	0.18	--	--	--	--	--	--	--	--	Calculated or imputed	--	08/2012
Vitamin K (phylloquinone) <sup>1,2</sup>	µg	1.3	4	0.090	1.2	1.5	2.0	0.877	1.773	2	Analytical or derived from analytical	--	08/2012
<b>Lipids</b>													
Fatty acids, total trans	g	0.000	--	--	--	--	--	--	--	--	Assumed zero	--	06/2015

Nutrient	Unit	Value Per100 g	Data Points	Std. Error	Min	Max	df	LB	UB	# Studies	Source	NDB Ref	Last Modified
<b>Flavonoids</b>													
Anthocyanidins													
Cyanidin <sup>4 5 6 7 8</sup>	mg	1.22	--	0.14	0	2.86	--	--	--	--	--	--	--
Petunidin <sup>5</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
Delphinidin <sup>5</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
Malvidin <sup>5</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
Pelargonidin <sup>5</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
Peonidin <sup>5</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
Flavan-3-ols													
(+)-Catechin <sup>4 5 6 7</sup>	mg	1.4	--	0.15	0.13	5.1	--	--	--	--	--	--	--
(-)-Epigallocatechin <sup>5</sup>	mg	0.7	--	0.18	0.33	0.96	--	--	--	--	--	--	--
(-)-Epicatechin <sup>4 5 6 7</sup>	mg	6.0	--	1.09	1.11	10.4	--	--	--	--	--	--	--
(-)-Epicatechin 3-gallate <sup>5</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
(-)-Epigallocatechin 3-gallate <sup>5</sup>	mg	0.1	--	0.11	0	0.33	--	--	--	--	--	--	--
(+)-Gallocatechin <sup>5</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
Flavanones													
Hesperetin <sup>5</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
Naringenin <sup>5</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
Flavones													
Apigenin <sup>5 9</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
Luteolin <sup>5 9</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
Flavonols													
Kaempferol <sup>9</sup>	mg	0.0	--	--	0	0	--	--	--	--	--	--	--
Myricetin <sup>5 9</sup>	mg	0.0	--	0	0	0	--	--	--	--	--	--	--
Quercetin <sup>4 5 6 7 9</sup>	mg	3.8	--	0.41	2.73	10.1	--	--	--	--	--	--	--
Proanthocyanidin													
Proanthocyanidin dimers <sup>3</sup>	mg	9.6	--	0.3	9.26	9.86	--	--	--	--	--	--	--
Proanthocyanidin trimers <sup>3</sup>	mg	6.2	--	0.23	6.05	6.49	--	--	--	--	--	--	--
Proanthocyanidin 4-6mers <sup>3</sup>	mg	21.3	--	1.51	19.93	22.91	--	--	--	--	--	--	--
Proanthocyanidin 7-10mers <sup>3</sup>	mg	18.7	--	1.36	17.74	20.28	--	--	--	--	--	--	--
Proanthocyanidin polymers (>10mers) <sup>3</sup>	mg	30.7	--	5.56	26.63	37.02	--	--	--	--	--	--	--

Sources of Data

<sup>1</sup>Nutrient Data Laboratory, ARS, USDA National Food and Nutrient Analysis Program Wave 5j, 2001 Beltsville MD

<sup>2</sup>Nutrient Data Laboratory, ARS, USDA National Food and Nutrient Analysis Program Wave 5b, 2000 Beltsville MD

<sup>3</sup>Gu, L., Kelm, M.A., Hammerstone, J.F., Beecher, G., Holden, J., Haytowitz, D., Gebhardt, S., and Prior, R.L. Concentrations of proanthocyanidins in common foods and estimations of normal consumption, 2004 J. Nutr. 134 pp.613-617

<sup>4</sup>Arabbi, P. R., Genovese, M. I., and Lajolo, F. M. Flavonoids in vegetable foods commonly consumed in Brazil and estimated ingestion by the Brazilian population., 2004 J. Agric. Food Chem. 52 5 pp.1124-1131

<sup>5</sup>Harnly, J. M., Doherty, R., Beecher, G. R., Holden, J. M., Haytowitz, D. B., and Bhagwat, S., and Gebhardt S. Flavonoid content of U.S. fruits, vegetables, and nuts, 2006 J. Agric. Food Chem. 54 pp.9966-9977

<sup>6</sup>Valavanidis, A., Vlachogianni, T., Psomas, A., Zovoili, A., and Siatis, V. **Polyphenolic profile and antioxidant activity of five apple cultivars grown under organic and conventional agricultural practices.**, 2009 Int. J. Food Sci. Technol. 144 pp.1167-1175

<sup>7</sup>Vrhovsek, U., Rigo, A., Tonon, D., and Mattivi, F. **Quantitation of polyphenols in different apple varieties.**, 2004 J. Agric. Food Chem. 52 pp.6532-6538

<sup>8</sup>Wu, X., Beecher, G. R., Holden, J. M., Haytowitz, D. B., Gebhardt, S. E., and Prior, R. L. **Concentrations of anthocyanins in common foods in the United States and estimation of normal consumption.**, 2006 J. Agric. Food Chem. 54 pp.4069-4075

<sup>9</sup>Lugasi, A. and Hovari, J. **Flavonoid aglycons in foods of plant origin II. Fresh and dried fruits.**, 2002 Acta Alimentaria 31 1 pp.63-71